CLAIMS

A device for reading or writing information, the device comprising:

an electromagnetic/transducer including a plurality of solid transduger layers,

a ceramic substrate adjoining said transducer, said substrate shaped as a rigid body adjacent to said transducer and as a p/urality of flexible elements distal to said transducer, /and

an actua/tor attached to said substrate distal to said transducer.

- 2. The devige of claim 1, wherein said actuator includes a layer of piezoelectric material.
- 3. The Aevice of claim 1, wherein:

said actuator includes a layer of piezoelectric

material, and

said transducer layers are substantially parallel with/said layer of piezoelectric material.

- The device of claim 1, wherein said actuator includes a plurality of layers of piezoelectric material.
- 5. The device of clax 1, wherein:

said acquator includes a plurality of layers of piezoelectric material, and

said agthator includes at least three electrically conductive layers each adjoining at least one of said pie oelectric material layers.



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- 6. The device of claim 1, wherein said flexible elements are substantially aligned with a center of mass of said rigid body.
- 7. The device of claim 1, wherein said rigid body has a media-facing-surface separated from a back surface in a Z-direction, and at least a portion of said flexible elements is disposed at a Z-height between said surfaces.
- 8. The device of claim 1, wherein said flexible elements are aligned substantially with a plane, and said rigid body and said actuator are intersected by said plane.
- 9. The device of claim 1, wherein said rigid body has a media-facing-surface separated from a back surface, and said back surface has a protrusion extending away from said media-facing surface.
- 10. The device of claim 1, wherein at least one of said flexible elements contains a plurality of conductive leads.
- 11. A device for reading or writing information, the device comprising:
- a wafer substrate piece disposed between an electromagnetic transducer and an electrostrictive actuator, said substrate piece shaped as a rigid body adjoining said transducer and as a flexible element connecting said rigid body and said actuator.
- 12. The device of claim 11, wherein said actuator includes a layer of piezoelectric material.



13. The device of claim 11, wherein:

said actuator includes a layer of piezoelectric material, and

said transducer includes a plurality of layers that are substantially parallel with said layer of piezoelectric material.

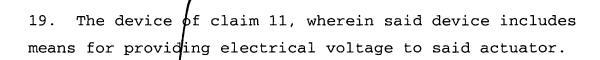
- 14. The device of claim 11, wherein said flexible element includes a plurality of flexible portions aligned substantially with a plane, and said rigid body and said actuator are intersected by said plane.
- 15. The device of claim 11, wherein said actuator includes a plurality of layers of piezoelectric material interspersed with a plurality of layers of electrically conductive materials.
- 16. The device of claim 11, wherein:

said actuator includes a plurality of layers of piezoelectric material interspersed with a plurality of layers of electrically conductive materials, and

alternate layers of said layers of electrically conductive materials are interconnected.

- 17. The device of claim 11, wherein said rigid body has a media-facing-surface separated from a back surface, and said back surface has a protrusion extending away from said media-facing surface.
- 18. The device of claim 11, wherein said rigid body and said actuator contain a material including silicon.





- 20. A device for reading or writing information, the device comprising:
- an electromagnetic transducer including a plurality of solid transducer layers,
- a deramic substrate adjoining said transducer, said substrate shaped as a rigid body adjacent to said transducer and as a plurality of flexible elements distal to said transducer, and

actuation means for positioning said transducer, said actuation means attached to said substrate distal to said transducer.

